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**H. Ananthnarayan\*** (ananth@math.ku.edu), Department of Mathematics, 1460 Jayhawk Blvd, University of Kansas, Lawrence, KS 66045. *3-Standardness of the Maximal Ideal*. Preliminary report.

Let  $R$  be a Cohen-Macaulay local ring with infinite residue field. Let  $J$  be a minimal reduction of the maximal ideal  $\mathfrak{m}$ . P. Valabrega and G. Valla show that the condition  $\mathfrak{m}^n \cap J = J\mathfrak{m}^{n-1}$  holds for all  $n$  if and only if the associated graded ring of the maximal ideal is Cohen-Macaulay. We investigate conditions under which the equality  $J \cap \mathfrak{m}^3 = J\mathfrak{m}^2$ , (i.e., the maximal ideal is 3-standard; in general, if  $J \cap \mathfrak{m}^k = J\mathfrak{m}^{k-1}$  for all  $k \leq n$ , we say that  $\mathfrak{m}$  is  $n$ -standard) holds and give some applications when it does hold. This is a preliminary report. (Received January 30, 2009)